

REMARKS

Claims 1-43 are pending in this application. A Non-Final Office Action mailed July 27, 2005 rejected claims 1-5, 7-15, 17-21, 38-41, and 43 and objected to claims 6, 16, 22, and 42. More specifically, the Examiner took the following action: (1) rejected claims 1, 5, 11, 12, 15, 21, 38, 41, and 43 under 35 U.S.C. §102(b) as being anticipated by Pike (U.S. 4979588); (2) rejected claims 7, 17, 39, and 40 under 35 U.S.C. §103(a) as being unpatentable over Pike in view of Milner (U.S. 3670849); (3) rejected claims 2, 3, 4, 13, and 14 under 35 U.S.C. §103(a) as being unpatentable over Pike in view of Baldas (2002/0074186); and (4) rejected claims 8-10 and 18-20 under 35 U.S.C. §103(a) as being unpatentable over Pike in view of Milner and Baldas. The Examiner acknowledged that claims 23-37 are allowable, and that claims 6, 16, 42, and 22 would be allowable if rewritten to include the limitations of their respective base and intermediate claims. Applicants express appreciation to the Examiner for acknowledging the existence of allowable subject matter, and respectfully request reconsideration of the application in view of the foregoing amendments and the following remarks.

I. Claims 1-5, 7-15, 17-37, 41, and 43 are in condition for allowance.

Claim 1 has been amended to include the limitations of claim 6, which the Examiner acknowledged as being allowable, and to correct an informality in the preamble, thereby putting claim 1 in condition for allowance. Claims 2-5 and 7-11 depend from allowable claim 1 and claim 6 has been canceled. Therefore, Applicants respectfully submit that claims 1-5 and 7-11 are in condition for allowance.

Claim 12 has been amended to include the limitations of claim 16, which the Examiner acknowledged as being allowable, thereby putting claim 12 in condition for allowance. Claims 13-15 and 17-21 depend from allowable claim 12, and claim 16 has been canceled. Therefore, Applicants respectfully submit that claims 12-15 and 17-21 are in condition for allowance.


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Claim 22 has been amended to include the limitations of claim 12, and also claim 21 (to provide antecedent basis for the term “display”). Therefore, Applicants respectfully submit that claim 22 is now in condition for allowance.

Claims 23-37 were acknowledged as being allowable by the Examiner.

Claim 41 has been amended to include the limitations of claim 42, which the Examiner acknowledged as being allowable, thereby putting claim 42 in condition for allowance. Claim 43 depends from claim 41, and claim 42 has been canceled. Therefore, Applicants respectfully submit that claims 41 and 43 are in condition for allowance.

For the foregoing reasons, Applicants respectfully submit that claims 1-5, 7-15, 17-37, 41, and 43 are in condition for allowance and that action is requested.

II. Claims 38-40

Claim 38 was rejected under 35 U.S.C. §102(b) as being anticipated by Pike. As amended, claim 38 recites a method for controlling a lift device, comprising *providing a sensor module adapted to monitor a plurality of scanning regions proximate the lift device for the presence of an approaching object and to detect the approaching object prior to physical contact with the approaching object, wherein at least two of the scanning regions are approximately orthogonally disposed relative to each other*; monitoring the plurality of scanning regions for an approaching object; moving at least a portion of the lift device using a drive assembly; detecting an approaching object within at least one of the scanning regions proximate to the lift device; and interrupting the operation of the drive assembly in response to the detection of the approaching object. (emphasis added).

Pike (U.S. 4979588)

Pike teaches an overhead impact sensing system. More specifically, Pike teaches a pair of bar members 44, 46 that project upwardly from a moveable central platform 22. (3:28-34; Figs. 1-3). Each bar member 44, 46 is coupled to a support mount 58, 60 that includes a switch 92

(3:44-46, 4:10-20; Figs. 2-4). In operation, as the platform 22 is moved upwardly, the bar members 44, 46 may physically contact an overhead obstruction, causing the switches 92 to move to an “open circuit” condition and automatically stop upward movement of the platform 22. (1:68-2:6; 4:29-55; 5:50-58).

Pike fails to disclose, teach, or fairly suggest the method recited in claim 38. More specifically, Pike fails to teach or fairly suggest a method that includes *providing a sensor module adapted to monitor a plurality of scanning regions proximate the lift device for the presence of an approaching object and to detect the approaching object prior to physical contact with the approaching object, wherein at least two of the scanning regions are approximately orthogonally disposed relative to each other*. Pike necessarily requires physical contact between the overhead obstruction and the bar members 44, 46 in order to detect the overhead obstruction. There is no teaching or suggestion in Pike to detect the approaching object *prior to physical contact with the approaching object* as recited in claim 38. Furthermore, there is no teaching or suggestion in Pike of a sensor module adapted to monitor a plurality of scanning regions, *wherein at least two of the scanning regions are approximately orthogonally disposed relative to each other*. The bar members 44, 46 are not orthogonal, but rather, are parallel to each other. Therefore, for these reasons, claim 38 is allowable over Pike.

Baldas (U.S. 2002/0074186)

Baldas does not remedy the above-noted absent teachings of Pike. Although Baldas teaches that an “aerial work platform 200 may be provided with a conventional stop mechanism to stop motion of the work platform 100 when the work platform 100 approaches or contacts another structure,” and that the stop mechanism “may be, for example and without limitation, an ultrasonic transceiver, a contact sensor, an infrared transceiver, a radar unit, etc.”, there is no teaching or suggestion in Baldas of a method that includes *providing a sensor module adapted to monitor a plurality of scanning regions proximate the lift device for the presence of an approaching object and to detect the approaching object prior to physical contact with the approaching object, wherein at least two of the scanning regions are approximately orthogonally disposed relative to each other* as recited in claim 38.

Milner (U.S. 3670849)

Similarly, Milner fails to teach or suggest the above-noted absent teachings of Pike. Milner teaches a platform 15 having a proximity sensing system 40 that includes inflatable bumpers 41, 42. (3:67-75). In operation, when the bumpers 41, 42 physically contact an approaching object, the pressure within the bumpers 41, 42 increases, causing switches 58, 59 to disengage the power from the drive assembly of the platform 15. (5:6-12; Abstract). Thus, there is no teaching or suggestion in Milner of a method that includes *providing a sensor module adapted to monitor a plurality of scanning regions proximate the lift device for the presence of an approaching object and to detect the approaching object prior to physical contact with the approaching object, wherein at least two of the scanning regions are approximately orthogonally disposed relative to each other* as recited in claim 38.

Claims 39 and 40 depend from claim 38 and are allowable over the cited references for the same reasons as claim 38 and also due to additional limitations recited in those claims. For example, claim 39 recites the method of Claim 38, wherein providing a sensor module includes providing a sensor module having at least one through-beam detector, and wherein detecting an approaching object includes detecting an approaching object using the through-beam detector. Similarly, claim 40 recites the method of Claim 38, wherein providing a sensor module includes providing a sensor module having a first proximity sensor adapted to monitor a first scanning region approximately along a first scanning axis, and a second through-beam sensor adapted to monitor a second scanning region approximately along a second scanning axis, wherein the first and second scanning axes are approximately orthogonal. These additional limitations are also not taught or fairly suggested by the cited references.

Therefore, for the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of the rejections of claims 38-40.

III. New Claims 44-48

New claim 44 recites an apparatus, comprising a lift device including a drive assembly; *at least one sensor module operatively coupled to the lift device, the sensor module being adapted to monitor a plurality of scanning regions proximate the lift device for the presence of an approaching object and to detect the approaching object prior to physical contact with the approaching object, wherein at least two of the scanning regions are approximately orthogonally disposed relative to each other*; and a controller operatively coupled to the sensor module and operatively coupled to the drive assembly, the controller being adapted to interrupt operation of the drive assembly in response to a detection signal from the sensor module. (emphasis added).

As described more fully above, the cited references fail to disclose, teach, or fairly suggest the apparatus recited in claim 44. More specifically, the references do not teach or fairly suggest an apparatus including *at least one sensor module operatively coupled to the lift device, the sensor module being adapted to monitor a plurality of scanning regions proximate the lift device for the presence of an approaching object and to detect the approaching object prior to physical contact with the approaching object, wherein at least two of the scanning regions are approximately orthogonally disposed relative to each other* as recited in claim 44. Claim 44 is therefore allowable. Claims 45-48 depend from claim 44 and are allowable for the same reasons as claim 44 and also due to additional limitations recited in those claims.

CONCLUSION

For the foregoing reasons, Applicants respectfully request reconsideration and withdrawal of all pending rejections and objections to the claims, and allowance of claims 1-5, 7-15, 17-41 and 43-48. If there are any remaining matters that may be handled by telephone conference, the Examiner is kindly invited to call the undersigned at his convenience.

Respectfully submitted,

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MAIL CERTIFICATE

I hereby certify that this communication is being deposited with the United States Postal Service via first class mail under 37 C.F.R. § 1.08 on the date indicated below addressed to: MAIL STOP AMENDMENTS, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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